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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/678,776	07/11/96	ABRAMS	J 12004

EXAMINER	
JENKINS, P	
ART UNIT	PAPER NUMBER
1742	13

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarl

Office Action Summary

Application No.	Applicant(s)
08/678,776	NADKARNI ET AL
Examiner	**Group Art Unit**
D. JENKINS	1742

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 9/29/98.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-52 is/are pending in the application.

Of the above claim(s)____ is/are withdrawn from consideration.

☒ Claim(s) 35-52 is/are allowed.

☒ Claim(s) 1-3, 9-12, 21-34 is/are rejected.

☒ Claim(s) 4-8, 13-20 is/are objected to.

☐ Claim(s)____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number)____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received:____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s).____

☐ Interview Summary, PTO-413

☐ Notice of References Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other____

Office Action Summary

1. The Examiner makes a new rejection based on a new reference that has come to the Examiner's attention (Woodworth). The Amendment After Final filed 29 September 1998 has been entered. The finality of the rejection of 29 May 1998 is withdrawn and the following Action is NOT made final.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 3, 9, 10, 24, 25, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Woodworth.

Woodworth discloses a bullet comprising:

90 percent by weight copper (page 3, line 16);

wherein said bullet is formed by pressing a powder comprising copper in a die (page 2, line 25) and sintering (page 2, col. 35).

Woodworth further discloses wherein said bullet is lead free (page 3, lines 15-21).

Woodworth further discloses wherein a solid lubricant is added to the powder (page 2, last full paragraph) and shows graphite as an additive (page 3, line 21).

Woodworth does not disclose the frangible characteristics of his bullet. However, Woodworth use of the same materials and approximate processing parameters would produce a bullet with similar characteristics to Applicant's.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodworth.

Woodworth discloses the invention substantially as claimed (see paragraph 3 above). However, Woodworth discloses graphite in an amount of 1.5% (page 3, line 21). It is common knowledge in the prior art to vary the amount of lubricant based on the metal composition. It would have been obvious to one having ordinary skill in the art a the time of the invention to vary the graphite content to 0.05-0.50% for selected bullet compositions.

Furthermore, it is common knowledge in the prior art that graphite and MoS2 are known lubricant equivalents. It would have been obvious to one having ordinary skill in the art at the time of the invention to replace graphite with MoS2 in the invention of Woodworth since graphite and MoS2 are known equivalents.

6. Claims 21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodworth in view of the Condensed Chemical Dictionary (CDC).

Woodworth discloses the invention substantially as claimed (see paragraph 3 above). However, Woodworth does not discloses using brass powder containing from 5 to 40 percent by weight of zinc. Woodworth does provide motivation to look to copper alloys in place of copper powder (page 2, lines 85-100). It is common knowledge in the prior art that brass is an alloy of copper and an improvement in corrosion resistance in the same field of endeavor and would be a obvious selection in the invention of Woodworth for the purpose of improving the corrosion resistance of the powder. It would have been obvious to one having ordinary skill in the art at the time of the invention to use brass as a copper alloy in the invention of Woodworth in order to improve the corrosion resistance of Woodworth's bullet. Furthermore, the CDC teaches in the same field of endeavor that brass of 15% zinc has good corrosion resistance. It would have been obvious to one having ordinary skill in the art at the time of the invention to select brass of 15% zinc as taught by the CDC in the invention of Woodworth in order to improve the corrosion resistance of Woodworth's bullet.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woodworth in view of the Condensed Chemical Dictionary (CDC).

Woodworth discloses the invention substantially as claimed (see paragraph 3 above). However, Woodworth does not disclose using zinc powder from 5 to 40%, but discloses using tin powder and other low melting point metals that alloy with copper (page 2, lines 80-100). CDC teaches to alloy 15% zinc with copper powder to form a corrosion resistant copper alloy powder. It would have been obvious to one having ordinary skill in the art at the time of the invention to use 15% zinc powder instead of the tin powder in the invention of Woodworth in order to form a corrosion resistant bullet.

8. Claims 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodworth. Woodworth discloses the invention substantially as claimed (see paragraph 3 above). However, Woodworth does not disclose the range of pressing and sintering parameters except for a temperature range of 1500-1550F for certain compositions.

Applicant has claimed various process conditions based upon the material selected. However, changes in process conditions of an old process do not impart patentability unless the recited ranges are critical. In re Aller et al. (CCPA 1955) 220 F2d 454, 105 USPQ 233. In this case, the selection on process parameters would be within ordinary skill in the art at the time of the invention in order to form a fully dense alloyed bullet.

9. Claims 4-8 and 13-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 35-52 are allowable.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Jenkins whose telephone number is (703) 306-4157.

Daniel J. Jenkins
Primary Examiner

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October 27, 1998